REMARKS/ARGUMENTS

Claims 30-36 are presently pending pursuant to a preliminary amendment filed in this case. Of these, claims 30-33 stand rejected as obvious in view of a combination of Damoulakis (U.S. 4,720,802) and Goldberg (U.S. 5,970,446). Claims 34-36 stand rejected as obvious in view of Rose (US 2002/0059068).

Applicants respectfully note that Damoulakis does not teach the elements for which it is cited, and that therefore the combination of Damoulakis and Goldberg does not render claims 30-33 obvious. In addition, it is submitted that for similar reasons Rose does not make obvious any of claims 34-36. As such, favorable reconsideration is requested.

Claims 30-33

Each of claims 30-33 is directed to a system for mitigating degradation in speech signals, and in particular to a system for removing noise from a transmitted speech signal so as to recreate an approximation of the original speech signal. Claim 30 is reproduced below as fairly representative for convenient reference, although it will be appreciated that each claim must be viewed separately for an accurate analysis.

> 30. An automated speech recognition filter, comprising:
>   means for determining one or more models representative of a signal degradation of a spoken speech signal transmitted from a transceiver to said automated speech recognition filter,
>   wherein the one or more models include at least one of a transceiver reception model, a wireless transmission model, a wireless reception model, a wireline transmission model, a wireline reception model, and a vehicle acoustical model; and
>   means for providing a second speech signal as a function of the one or more models, the second speech signal being an approximation of the spoken speech signal.

It can be seen that claim 30, which is written in means-plus-function format to invoke 35 U.S.C. §112, requires that a selected degradation model be used to recreate an original (e.g., noise-free) voice signal. In other words, an original signal undergoes degradation as it is processed and transmitted, and the selection of the appropriate model allows the degradation to be reversed so that an approximation of the original speech signal can be obtained.

In contrast, the Damoulakis reference performs in almost the opposite manner, starting with a clean <u>reference</u> signal and adding noise to mimic the degraded original signal. *See, e.g.,* Damoulakis at col. 17, lines 2-9; see also Abstract ("Adaptive speech recognition is improved by extracting an estimate of the background noise during unknown speech input, and using the noise estimate *to modify the noiseless prestored reference speech signals ....*") This teaching is repeated throughout Damoulakis. Thus, the Damoulakis technique does not operate by recreating the original noiseless signal, but instead recreates the degraded signal.

Because Damoulakis does not teach the elements for which it was cited, and because the Goldberg reference does not remedy this shortcoming, favorable reconsideration of claims 30-33 is warranted.[1]

Claims 34-36

Independent claim 34 is directed to a system for modeling degradation in a speech signal based in part on a user profile that determines a degradation model for transceiver transmission and a transceiver reception. Claim 34 is reproduced below for convenient reference:

> 34. An automated speech recognition filtering device, comprising:
>   a database operable to store a user profile corresponding to a transceiver, the user profile including at least four parameters n, m, j, and i related to the transceiver or its environment; and
>   an automated speech recognition filter operable to determine a transceiver transmission model and a transceiver reception model in response to the user profile, the transceiver transmission model being representative of a first signal degradation on a first speech signal by the transceiver, the transceiver reception model being representative of a second signal degradation of the first speech signal by the transceiver, the speech recognition filter implementing a filter routine
> $$J_{tl}(z, i, j, m, n)[k] = \frac{T_4[k] - (P_{tl} * P_{rl} * R_1[k])}{P_{tl} * A_u^n * T_4[k]}$$
> relative to a speech signal U[k], wherein $P_{t1} = C_t^m * W_t^j * F_t^i$,
> $P_{r1} = A_r^n * C_r^m * W_r^j * F_r^i$, $T_4[k]$ is a transmission signal, $R_1[k]$ is an audio signal, and z is a frequency domain operator.

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[1] Upon reconsideration, the Office is reminded of the policy set forth in MPEP §2181. For claims written in means-plus-function format, the Office must specifically make the finding required by §112 or must explain in detail why the claims which are written using §112 para. 6 language are nonetheless being treated as not invoking the statute.

The Action cites Rose as teaching all elements of this claim except the element of an "automated speech recognition filter operable to determine a ... transceiver reception model in response to a reception of the first variable ... the transceiver reception model being representative of a second signal degradation of the first speech signal by the transceiver." In essence, the Action alleges that Rose teaches transmission modeling and therefore all else is obvious.

However, it is not apparent from a technical and logical standpoint why the Examiner has made this assertion. Rose teaches a system for correcting, at a recipient device, signal degradation signals occurring on a signal transmitted from another device using a model. Claim 34 of the present application recites using a first model to represent the user device transmission characteristics and a second model to represent the user device speech reception characteristics. Both models apply to the same device, so it is not at all apparent how the server-based correction algorithm of Rose would be able to detect and correct a problem that only occurs on the recipient side where the server has no involvement.

More importantly, as can bee seen from the claim language reproduced above, amended claim 34 recites specific processing steps and parameters that are not taught by Rose, and that are not obvious in view of Rose. For all of these reasons, it is respectfully submitted that claim 34 and its dependent claims are patentable over Rose, and favorable reconsideration of claims 34-36 is thus respectfully requested.

Conclusion

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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